

Appl. No. : 09/651,181  
Filed : August 30, 2000

## AMENDMENTS TO THE CLAIMS

### CLAIMS:

1. (Currently Amended) A composition comprising:
  - a) a fiber optic bundle substrate with a surface comprising discrete wells, wherein each of said wells is configured to hold a single microsphere;
  - b) a reflective layer coating the bottom of the wells; and
  - c) a population of microspheres distributed in said wells.
2. (Currently Amended) A composition according to claim 1, wherein at least one of said microspheres comprises a bioactive agent.
3. (Previously Presented) A composition according to claim 2, wherein said bioactive agent is fluorescent.
4. (Cancelled)
5. (Cancelled)
6. (Currently Amended) The composition according to claim 1, wherein said fiber optic bundle substrate is selected from the group consisting of: glass and plastic.
7. (Previously Presented) A composition according to claim 1, wherein said reflective layer comprises a metal.
8. (Original) A composition according to claim 7, wherein said metal is selected from the group consisting of gold, silver, chromium, platinum and indium tin oxide.
9. (Previously Presented) A composition according to claim 1, wherein said reflective layer is a dielectric coating.
10. (Previously Presented) A composition according to claim 1, wherein said reflective layer selectively absorbs certain wavelengths of light.
- 11-16. (Cancelled)
17. (Currently Amended) An array composition comprising:
  - a fiber optic bundle substrate with a surface comprising an array of wells, wherein each of said wells is configured to hold a single microsphere;
  - a reflective layer coating the bottom of the wells; and

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a population of microspheres disposed in said wells, wherein said microspheres are linked to a bioactive agent.

18. (Currently Amended) A composition according to claim 17, wherein the wall angle of said wells is comprise a sloped wall angle.

19. (Previously Presented) A composition according to claim 17, wherein said wells contain a rounded wall interior.

20. (Currently Amended) A composition according to claim 17, wherein at least one of said alternatively shaped wells is a geometrically shaped well.

21. (Previously Presented) A composition according to claim 17, wherein said wells have a cross section selected from the group consisting of a square, a hexagon, a star, a triangle, a pentagon and an octagon.

22. (Previously Presented) A composition according to claim 17, wherein said bioactive agent is fluorescent.

23. (Previously Presented) A composition according to claim 17, wherein said bioactive agent comprises DNA.

24 - 28. (Cancelled)

29. (Currently Amended) An array composition comprising:

a) a fiber optic bundle substrate with a surface comprising discrete wells, wherein each of said wells is configured to hold a single microsphere; ;  
b) a reflective layer coating the bottom of the wells; and  
c) a population of microspheres distributed in said wells, wherein said microspheres comprise:

- i) a bioactive agent; and
- ii) a signal transducer element.

30. (Original) A composition according to claim 29, wherein said signal transducer element is a nucleotide intercalator.

31. (Original) A composition according to claim 29, wherein said signal transducer element is a fluorophore.

32-47. (Cancelled)

48. (Previously Presented) The composition of claim 1, wherein said microspheres comprise a first and a second population of microspheres.